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ABSTRACT

The purpose of this study is to provide an estimation of the ways in which Jefferson College impacts and stimulates the economy of Jefferson County and the state of Missouri as a whole. It provides quantitative information for use by the Board of Trustees and the Administrative Cabinet in institutional planning endeavors. It is also a useful reference for faculty and staff regarding the economic significance for the College to the area it serves. This study uses the data from fiscal year 2002. The major findings of the study are the following: (1) the revenue stream in Jefferson County is enhanced by $18,606,234; (2) the total spending impact of the College in Jefferson County is estimated as $36,927,475; (3) the expected increments in county sales taxes from graduates over their working lives is $6,928,667; (4) total full time college related employment in Jefferson County in FY 2002 was estimated at 1,627; and (5) the annual cost for the average Jefferson County homeowner to support the college is estimated to be only pennies a day. The study concludes that Jefferson College has a major impact on the economy of Jefferson County and on the state as a whole. (MZ)

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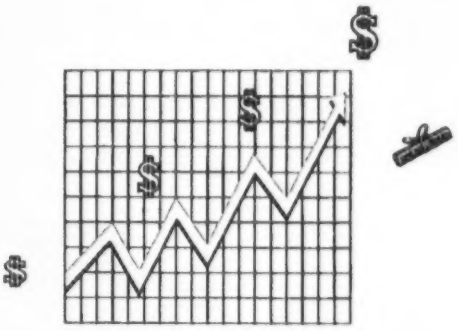
Jefferson College Graduate

The Economic Impact of Jefferson College on the Community and the State FY 2002



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Executive Summary

Title
The Economic Impact of Jefferson College on the Community and State – FY 2002

Applications
The purpose of this study is to provide an estimation of the ways in which Jefferson College impacts and stimulates the economy of Jefferson County and the state as a whole. It provides quantitative information for use by the Board of Trustees and the Administrative Cabinet in institutional planning endeavors and for use by the Public Relations Office in marketing and public information services. It is also a useful reference for faculty and staff regarding the economic significance of the College to the area it serves.

Summary
Using data from fiscal year 2002, this report is the latest in a series of economic impact studies. It is an update of a series of economic impact studies last published in March 2000 that uses revised estimates of spending from the BANNER database software system and revised county sales tax and state income tax revenues expected from College graduates. It continues, nevertheless, to provide conservative estimates of the financial and employment impact of the institution. The primary findings are as follows:

- The revenue stream in Jefferson County is enhanced by **$13,873,572** captured from external sources and **$4,732,662** retained in tuition and fees for a total of **$18,606,234**.
- The total spending impact of the College in Jefferson County is estimated as **$36,927,475**. Direct spending from the college, it's full-time employees, and its students amounts to **$19,435,513**, and an estimated **$17,491,962** is induced by virtue of re-spending portions of the original dollars.
- The expected increments in county sales taxes from 2001-02 Jefferson graduates over their working lives is **$6,928667,** and the expected increment in state income taxes is **$15,518,274**.
- Total full-time college-related employment in Jefferson County in FY 2002 was estimated at **1,627**. The College directly employed **267** fulltime persons, and an estimated **1,360** positions are created by the institution's spending patterns to support institutional functions.
- The annual cost for the average Jefferson County homeowner to support the college is estimated to be only pennies a day (**$82.19** in the example).

The Economic Impact of Jefferson College On the Community and State – FY 2002

Jefferson College routinely computes and publicizes its estimated economic impact on the local community and the entire state. To emphasize its commitment of service to the community, this study has been made current using fiscal year 2002 data. The purposes of this investigation are to:

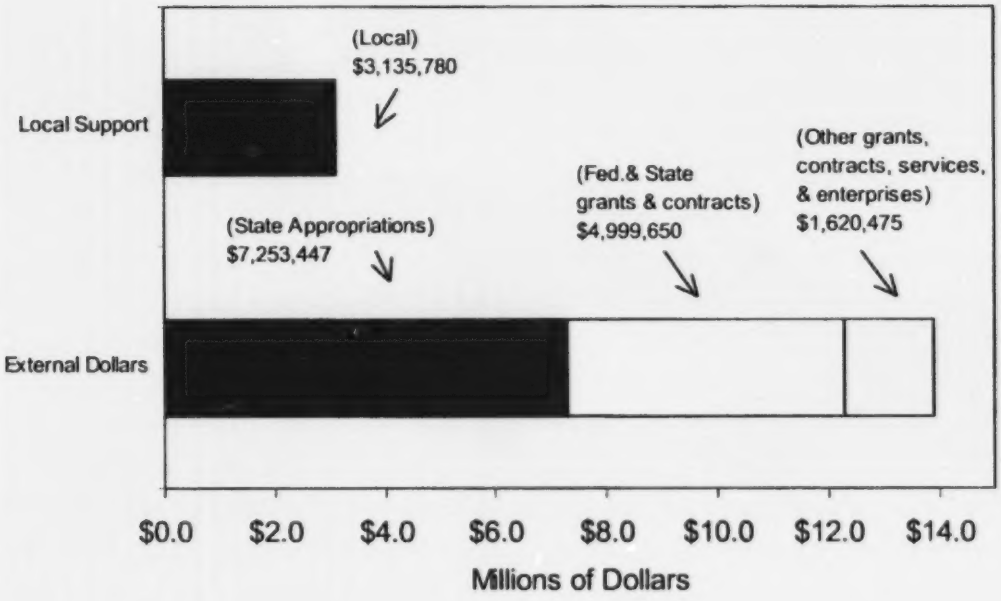
(A) Compute the magnitude of the external dollars accessed and retained for Jefferson County as a result of the community's investment in the College;
(B) Identify the economic impact of the College in the community through an examination of its spending patterns;
(C) Calculate the additional tax revenues that accrue to the county and the state as a result of the increased earning power of Jefferson College graduates;
(D) Estimate the total employment impact in the county related to the College's operations; and
(E) Identify the estimated annual cost for a typical county resident to support Jefferson College.

This brief report does not delve deeply into the methodology for calculating the economic estimates since this has been elucidated in previous reports. However, the annotated worksheets are included in the appendix. Nevertheless, every effort has been made to use conservative estimates so that the economic impact of the college is not overstated. For further information on the methodology for constructing an economic impact statement, the reader is referred to Ryan and Malgieri [1], Seybert[2], and Bluestone[3] as primary sources, as well as the previous institutional economic impact reports[4] available through the College's Office of Research and Planning.

A. External Dollars Accessed and Retained for the Community by Jefferson College

By virtue of Jefferson College being a public, tax-supported institution, it is eligible to attract external dollars for its educational purposes in Jefferson County. The College is eligible to receive external dollars in the form of state aid, federal student financial aid, aid for vocational programs, and from philanthropic and other sources. It is eligible to receive these funds in part because of the local financial support it receives. In addition, the tuition and fees that Jefferson County students would normally pay at another post-secondary institution are retained in the county. **In FY 2002, the college was able to access $13,873,572 dollars for use in the county**. The first chart presents these data.

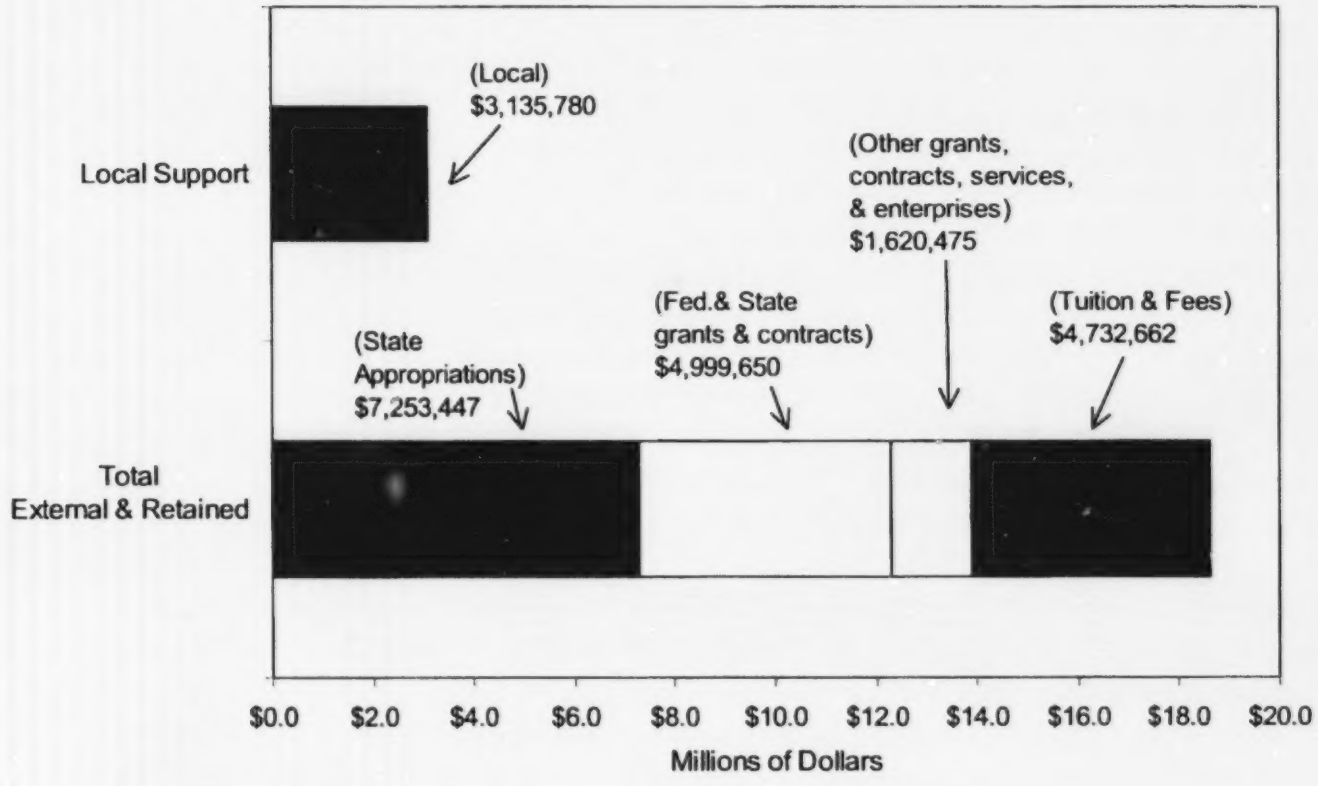
Figure 1. External Dollars Accessed from Local Support



Total Dollars Accessed = $13,873,572

Moreover, tuition dollars paid by students are also retained in the community adding to the overall economic stimulation. These are dollars, which, presumably, would not recycle in the local economy if the College were not present. The next figure shows the total extent of dollars captured and retained in the community.

Figure 2. Total External Dollars Captured and Retained



Total Dollars Captured & Retained = $18,606,234

The influx of dollars captured and retained in the revenue stream for Jefferson County is impressive. **$18,606,234 additional dollars are available for economic stimulation.** The College is a major contributor to the economic health of the county on the basis of the revenue stream alone.

B. The Economic Impact of Jefferson College's Spending Patterns

Jefferson College is a major contributor to the county's economy. The College's spending patterns stimulate the local economy directly and induce additional spending to the benefit of the local economy. Direct spending includes the actual spending of the institution as well as the spending patterns of its employees and the student body. It includes only that portion of the institution's total spending that can be applied to in-county purchases. This information for FY 2002 is summarized in the following table.

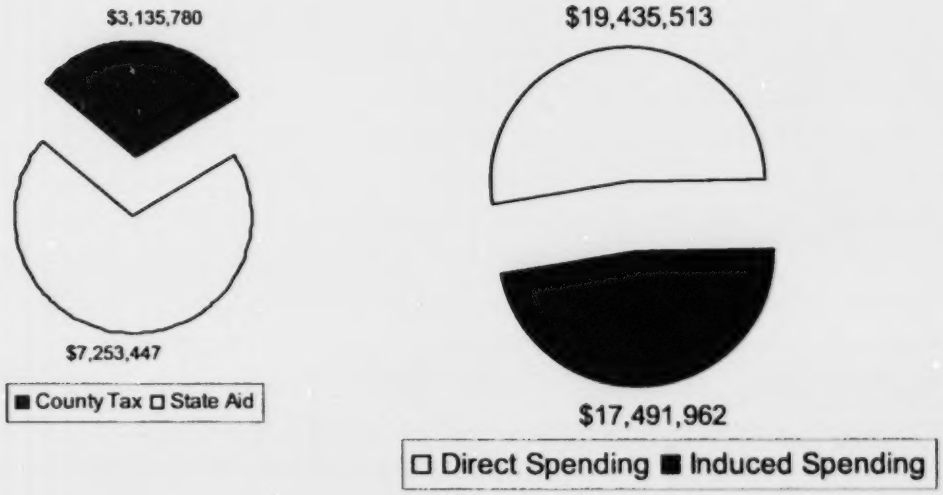
Table 1. In-County Spending Impact

Jefferson College Spending Source	Amount
In-County College Expenditures (23% of total expenditures in FY 2002)	$2,372,187
Total Estimated College Employees' Expenditures In-County	$2,907,052
Total Estimated College-Related Expenditures by Full-Time Equivalent Students	$14,156,274
Total Economic Impact of In-County Expenditures	**$19,435,513**

Induced spending can also be estimated from this initial round of direct spending. Induced spending is referred to in the literature as the "multiplier effect." In brief, the multiplier concept means that for each dollar initially spent by the institution, employees, and students, a portion is re-spent within the community by local merchants for materials and supplies for other business operations (such as local taxes), for goods and services produced outside the community, or for employee wages. This re-spending is the first induced round of economic stimulation. The recycling process of dollars continues with diminishing increments at each stage. The average multiplier mentioned in the literature is 1.9 with the range being from 1.2 to 3.0. Using the average multiplier, 1.9, as a conservative measure, the induced spending in Jefferson County associated with the College's direct spending results in an estimated additional **$17,491,962** for a **total spending impact of $36,927,475 in the community**.

The relationship between local and state support for the College and its economic stimulation in the community is graphically represented in Figure 3.

Figure 3. Total Investment and Economic Impact



Total Investment = $ 10,389,227
Total Spending Impact = $ 36,927,475

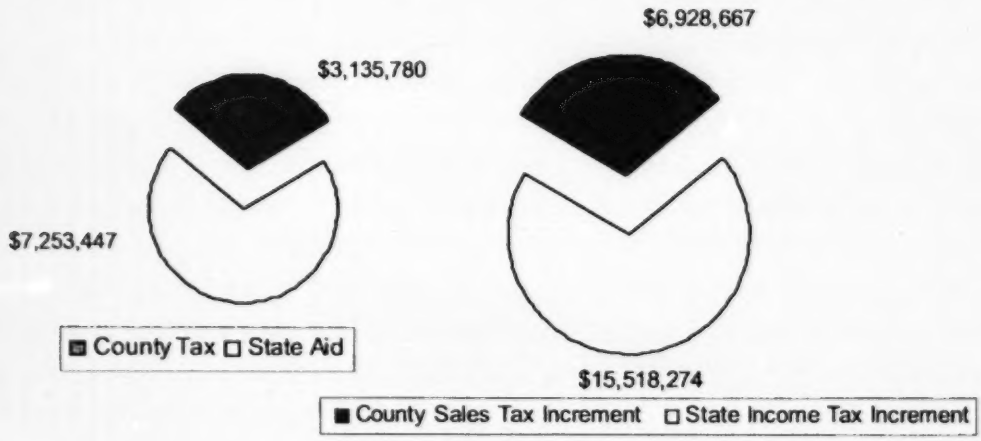
These spending patterns translate into **a return on taxpayer investment of $3.55 for each $1.00 invested.** Based on the portion of financial support, the **benefit to the county is an extra $1.07 and a benefit to the state of an extra $2.48 for each dollar invested.** The worksheets for calculating these estimates are in the appendix.

C. Increments in County & State Tax Revenues from Jefferson College Graduates

Other benefits accrue to the county and the state due to the increased earning power (and, therefore, tax liability) of college graduates. It is well known that earning power increases with years of education completed. Other significant factors involved in earning power are gender and race. Furthermore, a person's productive working life increases in proportion to the years of education completed.[5] For the purposes of this analysis only, educational attainment and work-life estimates are factored into the equation. The rationale for this is that the current earnings data by level of education obtained for the analysis are not reported by gender, and minority enrollment and graduation rates at Jefferson College are less than fve percent. Work-life expectancy tables are used to calculate increments in tax revenues that will accrue to the county (in the form of additional sales taxes) and to the state (in the form of additional income taxes).

Using the number of Jefferson College graduates in 2001-02 and the known students who transferred and graduated from public four-year institutions as the base, the increments in county sales taxes and state income taxes accruing by virtue of their increased earning power, spending power, and work life expectancies are calculated. There were **744** certificate, associate, bachelor, and other program completers in 2001-02. **The net work-life increment in state tax revenue from these Jefferson College graduates is estimated at $15,518,274. The net-work life increment in county sales tax revenue is estimated at $6,928,667.** Therefore, for a total county/state investment of $10,389,227, **a total increment in sales and income taxes of $22,446,941 can be expected from the Jefferson College graduates over their working lives.** Figure 4 below depicts this relationship.

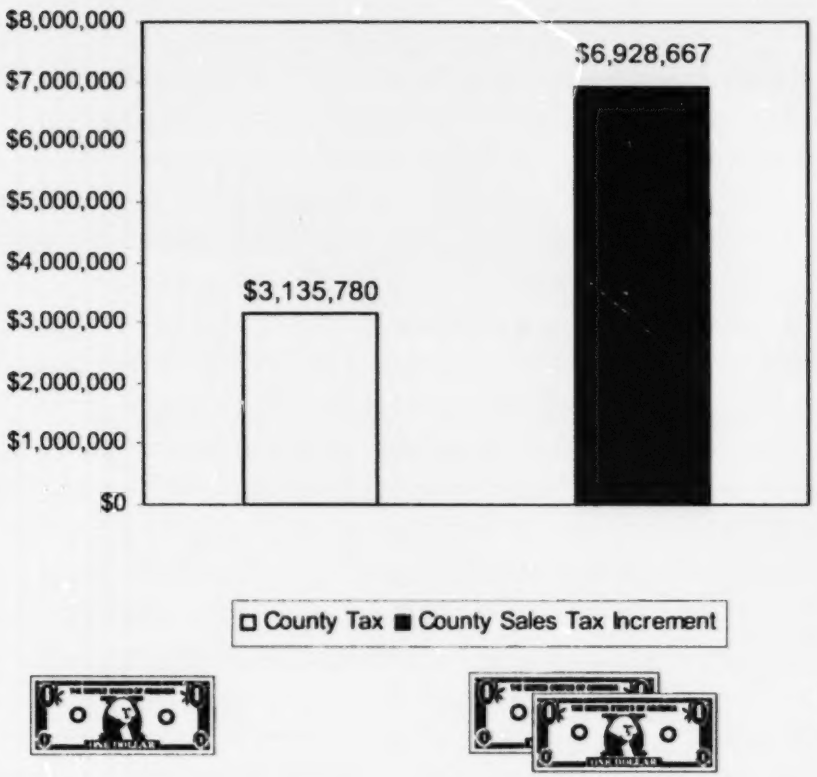
Figure 4. Increments in County and State Taxes Over the Working Lives of Graduates



Total Investment = $ 10,389,227
Total Increment = $ 22,446,941

The significance of this analysis is that substantial investment returns accrue to the county as a result of their support of the College even if the impact of the institution's spending patterns within the county are not considered. College graduates make more money and pay more taxes than non-college graduates. Just in terms of the additional sales tax revenues that will accrue to the county over the working lives of last year's college graduates, there is a significant investment return on the dollar. Figure 5 shows this relationship.

Figure 5. Investment Return on the Tax Dollar:
Local Investment and County Sales Taxes From Graduates

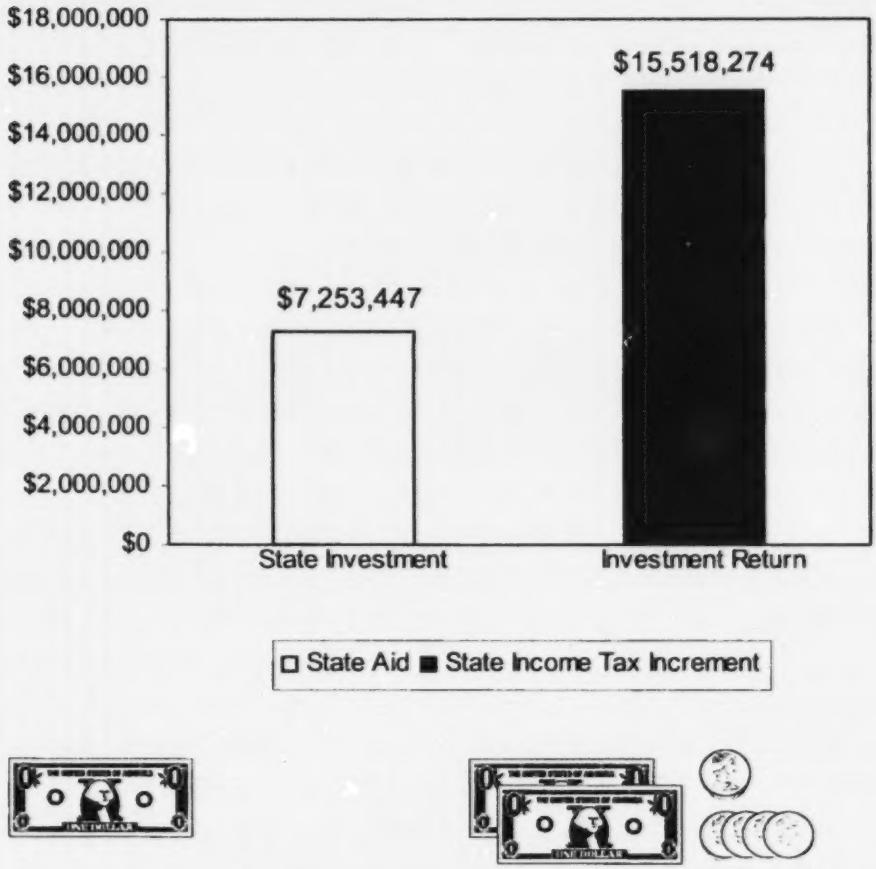


$1.00 in County Tax Support = $2.21 in Additional County Sales Taxes

Since college graduates make more money and pay more taxes than non-college graduates, for every dollar invested in support of Jefferson College, the county can expect to receive not only their tax dollar back but also **an additional $2.21 in sales taxes** over the working lives of the 2001-02 Jefferson College graduates. The same investment return is true for the state, too.

Figure 6 shows the state's investment return in additional income tax revenues for their investment in the College.

Figure 6. Investment Return on the Tax Dollar:
State Appropriations and State Income Taxes from Graduates



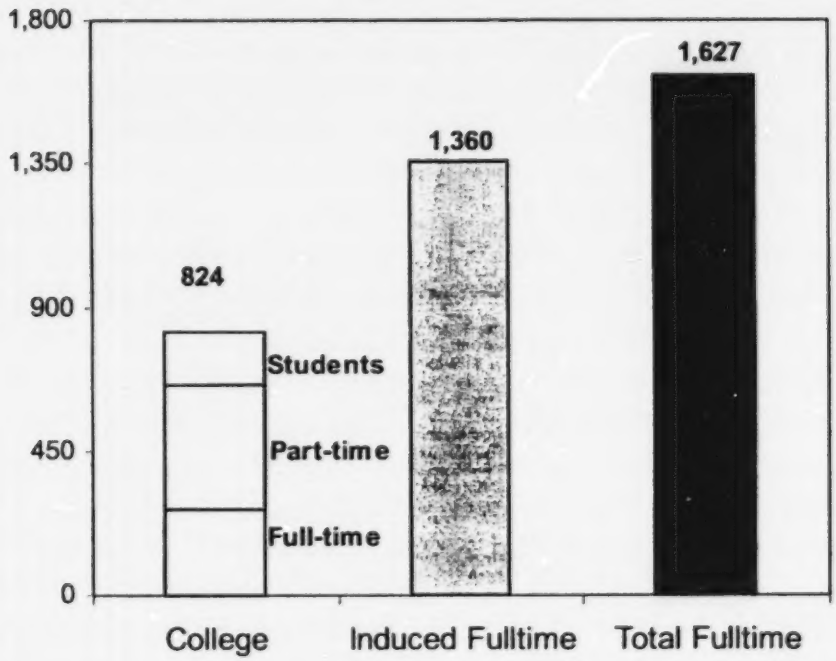
$1.00 in State Appropriations Support =$2.14 in Additional State Income taxes

Again, since college graduates will make more money and pay more taxes than non-college graduates, for every state dollar invested in support of Jefferson College, the state can expect to receive not only their tax dollar back but also **an additional $2.14** in state income taxes over the working lives of 2001-02 Jefferson College graduates. Investing in a student's education is indeed an astute investment strategy.

D. The Employment Impact of Jefferson College in the Community

Another factor to consider in the overall economic impact of Jefferson College in the community is the amount of employment created. Jefferson College employs full-time and part-time faculty and staff as well as providing work-study employment for college students. According to the institution's 2002 end-of-year payroll records, there were **267** full-time, **391** part-time, and **166** part-time student employees at the college for **a total of 824 people employed by the College**. Furthermore, employment opportunities are created within the community by virtue of the college's spending patterns. A typical estimate of this induced employment as found in the literature[6] and based on the total expenditures of the College in the community (i.e., seven positions for every $100,000 spent in the community) results in **an estimate of an additional 1,360 full-time positions created**. Figure 5, below, graphically represents the employment components.

Figure 7. College-Related Employment



Total Fulltime College-Related Employment = 1,627
Total College-Related Employment = 2,184

E . An Example of the Cost to a Typical County Resident or Family ***to Support Jefferson College***

The preceding analyses of the spending impact of the College and the tax increments that will accrue from Jefferson graduates provide substantial justification for public financial support. But what is the estimated cost to an average family residing in the county? How much does it cost the typical Jefferson County resident annually to support the college?

Assessed valuation rates differ for agricultural, residential, and commercial property. In 2002, residential real property was assessed at a rate of nineteen cents per $100 valuation. Agricultural was assessed at twelve cents and commercial at thirty-two cents. Personal property rates vary by type of item. Jefferson College's 2002 taxing rate was thirty-five cents (actually $0.3483) per one hundred dollars on the assessed value of the real and personal property. As an example, assume that a person owns a residence at the median home market value for the county ($99,200 according to the Missouri Census Data Center Demographic Profile 3, 2000 Census—Jefferson County-OSEDA) and has taxable personal property assessed at $4,750 (the estimated Jefferson County residential average according to the County Assessor's Office). Table 2, below, demonstrates how much this would cost a Jefferson County resident to annually support their community college.

Table 2. Computation of Cost to Support Jefferson College for an Average Resident (2002 Tax Rates)

Estimated Annual Taxpayer Cost To Support Jefferson College	Amount
Market value of an average home in Jefferson County (Median value $99,200 per 2000 Census) multiplied by the assessed rate ($0.19)	$18,848
Average assessed value of taxable personal property (estimated at $3,800 per County Assessor's Office)	$4,750
Total assessed valuation of real and personal property	$23,598
Multiplied by the College tax levy ($0.35 per $100), the cost of annual support for Jefferson College	**$82.19**

The preceding computations are just an example, but it is clear that the cost for a resident or family to support Jefferson College is not large. The cost-to-benefits ratio is very favorable when the total economic impact of the College in the community, and the tax increments that will accrue to the county from the college graduates, are taken into consideration. Furthermore, this analysis does not even begin to estimate the value of the cultural, social, athletic, and similar events sponsored by the college for the community, nor the leadership and technical expertise its employees provide to community businesses and organizations.

Summary

In conclusion, it is evident that Jefferson College has a major impact on the economy of Jefferson County and on the state as a whole. It is also important to reiterate that, although the calculations in this report are estimates, **they are consistently conservative estimates**. Every effort has been made to systematically use conservatively low estimates whenever assumptions were made in regard to dollar amounts or people.

Economic impact is not a singular concept, and this study has attempted to define it from the positive aspect of economic stimulation and future investment returns as well as from the aspect of the cost it places on the average residential property owner. It is an important public accountability issue to make known the extent of the economic contribution of Jefferson College in its community and in the state.

The total spending impact of the College in Jefferson County in FY 2002 amounted to an estimated **$36,927,475**. The tax increments that will accrue to the county and the state as a result of the 2001-02 Jefferson graduates' increased earning power are **$6,928,667** and **$15,518,274** respectively. The number of fulltime college-related jobs in the county is estimated at **1,627**. The amount of external dollars captured during the fiscal year was **$13,873,572**, and the amount of tuition dollars retained in the county was **$4,732,662**. And all the preceding economic benefits cost the average Jefferson County resident pennies a day (**$82.19** annually in the example). Investment in higher education at Jefferson College is an astute choice.

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[1] Ryan, G. J., and Malgieri, P., "Economic Impact Studies in Community Colleges: The Shortcut Method," National Council for Resource Development, Resource Paper No. 48, February, 1992.

[2] Seybert, Jeffrey, "The Economic Impact of Higher Education on the Kansas City Metropolitan Area 1988-89," A report prepared for the Kansas City Regional Council for Higher Education, April 1991.

[3] Bluestone, Barry, "UMASS/Boston: An Economic Impact Analysis," University of Massachusetts, Boston, January 1993.

[4] Lange, J. E., "The Economic Impact of Jefferson College on the Community and the State," Office of Institutional Research, Jefferson College, February 1994 (and updated annually).

[5] Smith, Shirley J., "Worklife Estimates: Effects of Race and Education," U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 2254, February 1986.

[6] Office of Institutional Research and Strategic Planning, "The Economic Impact of Utah Valley Community College on Utah County, 1988-89," Utah Valley Community College, February 1990.

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